

II. REMARKS

A. The Final Office Action

In the Final Office Action, claims 1-6 are rejected under 35 U.S.C. §§103,112.

In summary of this Response, the Abstract and claims 1 and 2 are amended, and remarks are provided.

Claim 2 is amended merely to correct a typographical error.

B. Grounds for Entry of this Response

Pursuant to 37 C.F.R. 1.116
and Allowance of this Application

Applicants request entry of this Rule 116 Response because: it is believed that the amendment of claim 1 puts all claims into condition for allowance; (a) the amendment was not earlier presented because Applicants believed in good faith that the cited prior art did not disclose the present invention as previously claimed; and (b) the amendments of claim 1 should not entail any further search by the Examiner since no new features are being added or new issues being raised.

C. Rejection of Claims Under 35 U.S.C. §112

The Examiner indicates that support is lacking for the recitation "dibutyl cresol-free" in the preamble of claim 1.

The reference of record which discusses BHT(dibutyl cresol), i.e., Duffy et al., U.S. Patent No. 5,382, 602, indicates that BHT is intentionally added to polyether polyol as a stabilizer. There is no discussion in the present application of adding BHT as a stabilizer to the polyol component. Instead, page 1, lines 1 and 2, indicates that the conventional soft polyurethane foam like that discussed in Duffy et al. having been produced from a polyol raw material containing BHT as an antioxidant, involves problems arising from the BHT, such as discoloration of the foam itself, and/or color migration (the cloth in contact with the soft polyurethane foam is stained). According to the present application, at page 2, paragraph number 9, the antioxidant used as a raw material [polyol] for the present invention is instead of BHT, the recited 3,9-bis...undecane, i.e., "AO80".

Independent claim 1 now recites only one phenolic antioxidant, which corresponds to the

"AO80" described in the original application as filed on Page 9, lines 2-4. It is believed the CAS Registry printout for "AO80" cited by the Examiner in the December 18, 2002 Office Action fails to show that this antioxidant has any BHT (2,6-di-tert-butyl-methylphenol) therein.

The specification indicates that an example of the polyol component recited is GP 3000. It is also believed that this polyol is not known to include any BHT. Accordingly, claim 1 has been further amended to recite that the polyol component is dibutyl-cresol free.

Also, other U.S. Patent references which discuss the polyol "GP 3000" do not suggest that same includes any BHT. See, for example, U.S. Patent Nos. 4,226,944, column 4, line 39-42, published U.S. Application No. 2003/0013779 at paragraphs 48 and 49, U.S. Patent No. 6,102,532 at column 5, line 47-50, and U.S. published Patent Application No. 2002\0025990 paragraphs 86-89, copies attached.

In light of the current claims, the application indicating the present invention avoids the use of the BHT as a stabilizer, by substituting same with the recited antioxidant, it is believed that claims are fully supported for the purposes of 35 U.S.C. §112.

D. Prior Art Rejection

Claims 1-6 are rejected as being made obvious by a combination of St. Clair et al., which is cited for disclosing each recited feature except the two previously recited phenolic antioxidants, and Ishii et al., which is cited for teaching the use of 3,9-bis(1,1-dimethyl-2-(3-(3-tert-butyl-4-hydroxy-5 methylphenyl)propionyloxy)ethyl)-2,4,8,10-tetraoxaspiro(5.5)undecane, or Duffy et al., which is cited for teaching the use of 2-2'-thio-diethylene bis (3-(3,5-di-t-butyl-4-hydroxyphenyl) propionate), as antioxidants for use with polyurethanes.

As noted above, claim 5 is cancelled. However, for the following reasons, it is respectfully submitted that the present invention, as recited by amended claims 1-4 and 6, was not rendered obvious by the cited combination.

Since Claim 1 has been amended to recite only the former compound, it is believed the rejection including Duffy et al. on this ground is mooted.

As shown in the examples of the present application, the use of "AO80" as the phenolic antioxidant in conjunction with the polyol yields superior and unexpected results. That is, superior color migration and discoloration prevention are provided. See the first six examples.

Clare et al. is not concerned with preventing color migration, but relates to structural degradation due to light/aging. See, e.g., Column 1, lines 58-63. For example, even when the

St. Claire antioxidant stabilizer is added as in Examples 4, 5 and 7, the properties compared do not relate to color fastness ("surface degradation...brittle and powdery when rubbed". Table 2, note "a").

Accordingly, one of ordinary skill would not be motivated to add the antioxidant of Ishii et al. to Clare et al., as Clare et al does not concern itself with the detriment for which the Examiner suggests the modification. Also, while Duffy may suggest a substitution for BHT, Claire et al. lack's any BHT, so there also is no motivation to modify Claire et al. based on Duffy's cited disclosure.

Again, by combining a dibutyl cresol-free polyol with the AO80, as recited, the significant discoloration inhibiting performance shown in the Table of the present application are obtained: compare the "discoloration," "UV discoloration" and "No_x discoloration" values, examples 1-6, where AO80 is present, with the comparative example's values.

III. CONCLUSION

In light of the above amendments and remarks, it is respectfully submitted that claims 1-4 and 6 are now in condition for allowance.

If there are any additional fees associated with this Response, please charge same to our Deposit Account No. 19-3935.

Finally, if there are any formal matters remaining after this Response, the undersigned would appreciate a telephone conference with the Examiner to attend to these matters.

Respectfully submitted,

STAAS & HALSEY LLP

Date: 2/13/04

By: 
William F. Herbert
Registration No. 31,024

1201 New York Avenue, NW, Suite 700
Washington, D.C. 20003
(202) 434-1500